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Home » Education » SNIA Dictionary » **Dictionary C**

SNIA Dictionary Links: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

C

CA

CONTEXT [Security]

Acronym for certification authority

cable plant

All of an installation's passive communications elements (e.g., optical fiber, twisted pair, or coaxial cable, connectors, splices, etc.) between a transmitter and a receiver.

cache

1. To store data temporarily for expedited access.
2. The location in which data is stored temporarily. There are a variety of cache types. *Read cache* holds data in anticipation that it will be requested. *Write cache* holds data written by a client until it can be stored on other (typically

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slower) storage media such as disk or tape. cf. buffer, disk cache, write back cache, write through cache

canister

CONTEXT [Storage System]

An enclosure for a single disk or tape. Canisters are usually designed to mount in shelves, which supply power, cooling, and I/O bus services to the devices. Canisters are used to minimize RF emissions and to simplify insertion and removal of devices in multi-device storage subsystems. cf. shelf

carousel

CONTEXT [Data Recovery]

A media handling robot in which the media are stored in and selected from a rotating wheel.

carrier sense multiple access with collision detection

CONTEXT [Network]

A physical layer data transmission protocol used in Ethernet and fast Ethernet networks. Abbreviated CSMA/CD. Carrier sense refers to arbitration for a shared link. Unlike "always on" physical protocols, carrier sense protocols require a node wishing to transmit to wait for the absence of carrier (indicating that another node is transmitting) on the link. Multiple access refers to the party line nature of the link. A large number of nodes (up to 500 in the case of Ethernet) share access to a single link. Collision detection refers to the possibility that two nodes will simultaneously sense absence of carrier and begin to transmit, interfering with each other. Nodes are required to detect this interference, and cease transmitting. In the case of Ethernet, each node detecting a collision is required to wait for a random interval before attempting to transmit again.

cascading

CONTEXT [Fibre Channel]

The process of connecting two or more Fibre Channel hubs or switches together to increase the number of ports or extend distances.

catalog

CONTEXT [Data Recovery][File System]

1. [Backup] A stored list of backed up files and directories and the locations (media identifiers) of the backup copies. Backup managers use catalogs to determine what files must be backed up, and to determine which media must be mounted and read to perform a restore.

2. [File System] A persistent data structure used by some file systems to keep track of the files they manage.

CC

CONTEXT [Security]

Acronym for Common Criteria.

CDB

CONTEXT [SCSI]

Acronym for Command Descriptor Block.

CDP

Acronym for Continuous Data Protection.

CDR

CONTEXT [Fibre Channel]

Acronym for Clock and Data Recovery.

certificate

CONTEXT [Security]

A data structure signed with a digital signature that is based a public key and asserts that the key belongs to a subject identified in the structure.

Certificate Revocation List

CONTEXT [Security]

A time-stamped list of certificates that have been revoked by the Certification Authority. The CRL is signed by the issuing CA and is made available to entities that need to rely on a certificate for authentication. Acronym CRL.

certification authority

CONTEXT [Security]

In a Public Key Infrastructure (PKI), the authority and organization responsible for issuing and revoking user certificates, and ensuring compliance with the PKI policies and procedures.

challenge

CONTEXT [Security]

A step in an authentication dialog that must be answered using either a secret or process assumed to be known only by the other party. A challenge can be as simple as "What's your password?" or as complex as "Send me the result of a retinal scan of your right eye."

Challenge Handshake Authentication Protocol

CONTEXT [Security]

A password-based authentication protocol that uses a challenge to verify that a user

has access to a system. A hash of the supplied password with the challenge is sent for comparison so the cleartext password in never sent over the connection.

changed block

changed block point in time copy

CONTEXT [Storage System]

Any of a class of point in time copy implementations or the resulting copies in which the copy and its source share storage for portions (usually blocks) of the copy that are not subsequently modified (in the source, or in the copy if the copy is writeable). Storage is physically copied only as a consequence of modifications (to the source, or to the copy if the copy is writeable). A changed block copy occupies only the storage necessary to hold the blocks of storage that have been changed since the point in time at which the copy logically occurred.

channel

1. [storage] The electrical circuits that sense or cause the state changes in recording media and convert between those state changes and electrical signals that can be interpreted as data bits.

2. [I/O] Synonym for I/O bus. The term *channel* has other meanings in other branches of computer technology. The definitions given here are commonly used when discussing storage and networking. *cf.* device channel, device I/O bus, I/O bus, host I/O bus

character

CONTEXT [Fibre Channel]

1. In general computing usage, synonym for byte.

2. A 10-bit information unit transmitted and received by FC-1. 8B/10B encoding provides the mapping between 8 bits of data and a 10 bit transmission character. Some transmission characters correspond to special codes and not

all 10 bit sequences represent valid transmission characters.

character cell interface

Synonym for command line interface.

check data

CONTEXT [Storage System]

Synonym for parity data.

checkpoint

CONTEXT [Data Recovery] [File System]

1. The recorded state of an application at an instant of time, including data, in-memory variables, program counter, and all other context that would be required to resume application execution from the recorded state.

2. An activity of a file system (such as the High Performance File System, HPFS, or the Andrews File System, AFS) in which cached meta data (data about the structures of the file system) is periodically written to the file system's permanent store. This allows the file system to maintain consistency if an unexpected stop occurs.

chunk

CONTEXT [Storage System]

Synonym for strip.

chunk size

CONTEXT [Storage System]

Synonym for stripe depth and strip size.

7/7/2008

C-H-S addressing

CONTEXT [Storage System]

Synonym for cylinder-head-sector addressing.

CID

CONTEXT [iSCSI]

Acronym for Connection Identifier.

CIFS

CONTEXT [File System]

Acronym for Common Internet File System.

CIM

CONTEXT [Management] [Network]

Acronym for Common Information Model.

cipher

CONTEXT [Security]

Any cryptographic system in which arbitrary symbols or groups of symbols, represent units of plain text or in which units of plain text are rearranged, or both.

ciphertext

CONTEXT [Security]

Data that has been encrypted for security reasons. cf. cleartext

circuit

CONTEXT [Fibre Channel] [Network]

Synonym for communication circuit.

CKD (architecture)

CONTEXT [Storage System]

Synonym for count-key-data disk architecture.

Class 1

CONTEXT [Fibre Channel]

A connection-oriented class of communication service in which the entire bandwidth of the link between two ports is dedicated for communication between the ports and not used for other purposes. Also known as dedicated connection service. Class 1 service is not widely implemented. cf. intermix

Class 2

CONTEXT [Fibre Channel]

A connectionless Fibre Channel communication service which multiplexes frames from one or more N_Ports or NL_Ports. Class 2 frames are explicitly acknowledged by the receiver, and notification of delivery failure is provided. This class of service includes end to end flow control.

Class 3

CONTEXT [Fibre Channel]

A connectionless Fibre Channel communication service which multiplexes frames to or from one or more N_Portsor NL_Ports. Class 3 frames are datagrams, that is they are not explicitly acknowledged, and delivery is on a "best effort" basis.

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classified information

CONTEXT [Security]

Information that an appropriate agency has determined to require protection against unauthorized disclosure and has caused to be marked to indicate its classified status.

class of service

CONTEXT [Networking] [Fibre Channel]

1. [Network] A mechanism for managing traffic in a network by specifying message or packet priority or delivery acknowledgement. For example, the identification and grouping of data packets based on a priority label (in the packet header) or via other mechanisms (such as "per hop behavior", defined by the IETF's Differentiated Services).

2. [Fibre Channel] The characteristics and guarantees of the transport layer of a Fibre Channel circuit. Fibre Channel classes of service include: connection services (Classes 1), acknowledged frame delivery with end to end flow control (Class 2), and packetized frame datagrams (Class 3). Different classes of service may simultaneously exist in a fabric. The form and reliability of delivery in Class 3 circuits may vary with the topology.

cleartext

CONTEXT [Security]

Alternative term for plaintext. Data in clear text implies that the data is not scrambled or rearranged, and the data is in its raw form.

CLI

Acronym for command line interface.

client

1. An intelligent device or system that requests services from other intelligent devices, systems, or appliances. *cf.* server

2. An asymmetric relationship with a second party (a server) in which the client initiates requests and the server responds to those requests.

client service request

CONTEXT [Fibre Channel]

A request issued by a client application to a well-known service. An example is a name service query.

cluster

A collection of computers that are interconnected (typically at high-speeds) for the purpose of improving reliability, availability, serviceability and/or performance (via load balancing). Often, clustered computers have access to a common pool of storage, and run special software to coordinate the component computers' activities.

CMIP

CONTEXT [Management] [Network]

Acronym for Common Management Information Protocol.

coaxial cable

An electrical transmission medium consisting of two concentric conductors separated by a dielectric material with the spacings and material arranged to give a specified electrical impedance. *cf.* triaxial cable

code balance

CONTEXT [Fibre Channel]

The number of 1 bits in a 10-bit transmitted data stream divided by 10 (e.g.,

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1110100011 has a code balance of 6/10 = 60%).

code bit

CONTEXT [Fibre Channel]

code byte

CONTEXT [Network]

A bit (binary digit) of an encoded datum. Sequences of code bits make up symbols, each of which corresponds to a data element (word, byte, or other unit).

code violation

CONTEXT [Fibre Channel]

The error condition that occurs when a received transmission character cannot be decoded into a valid data byte or special code using the validity checking rules specified by the transmission code.

cold backup

CONTEXT [Data Recovery]

Synonym for offline backup. *cf.* hot backup , online backup

cold swap

The substitution of a replacement unit (RU) in a system for a defective one, where external power must be removed from the system in order to perform the substitution. A cold swap is a physical substitution as well as a functional one. *cf.* automatic swap, hot swap, warm swap

comma character

CONTEXT [Fibre Channel]

1. Either of the seven bit sequences 0011111 or 1100000 in an encoded stream

2. A special character containing a comma.

Command Descriptor Block

CONTEXT [SCSI]

A sequence of bytes that defines a single SCSI command sent to a SCSI target. Acronym CDB.

command line interface

A form of human interface to intelligent devices characterized by non-directive prompting and character string user input. Perceived by many users to be more difficult to comprehend and use than graphical user interfaces (GUI).

Common Criteria

CONTEXT [Security]

A multi-part International Standard that is meant to be used as the basis for evaluation of security properties of IT products and systems. The CC is specified in ISO/IEC 15408-1:1999, ISO/IEC 15408-2:1999, and ISO/IEC 15408-3:1999. Acronym CC.

Common Information Model

CONTEXT [Management] [Network]

An object oriented description of the entities and relationships in a business' management environment maintained by the Distributed Management Task Force. Abbreviated CIM. CIM is divided into a Core Model and Common Models. The Core Model addresses high-level concepts (such as systems and devices), as well as fundamental relationships (such as dependencies). The Common Models describe specific problem domains such as computer system, network, user or device management. The Common Models are subclasses of the Core Model and may also be subclasses of each other.

Common Internet File System

CONTEXT [Network]

A network file system access protocol primarily used by Windows clients to communicate file access requests to Windows servers. Abbreviated CIFS. Originally called Server Message Block (SMB). Today, other implementations of the CIFS protocol allow other clients and servers to use it for intercommunication and interoperation with Microsoft operating systems.

Common Management Information Protocol

CONTEXT [Management] [Network]

A network management protocol built on the Open Systems Interconnection (OSI) communication model. Abbreviated CMIP. CMIP is more complete, and therefore larger than, SNMP.

communication circuit

CONTEXT [Fibre Channel] [Network]

1. A bidirectional path for message exchange within a Fibre Channel fabric.
2. In networking, a specific logical or physical path between two points over which communications occur.

communications security

CONTEXT [Network][Security]

Protection of information while it's being transmitted, particularly via telecommunications. A particular focus of communications security is message authenticity. Communications security may include cryptography, transmission security, emission security, and physical security.

complex array

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CONTEXT [Storage System]

A disk array whose control software protects and maps data according to more complex algorithms than those of the Berkeley RAID Levels. The most common complex arrays are multi-level disk arrays, which perform more than one level of data address mapping, and adaptive arrays, which are capable of changing data address mapping dynamically.

compression

CONTEXT [Data Recovery] [File System] [Network] [Storage Device] [Storage System]

The process of encoding data to reduce its size. *Lossy* compression (i.e., compression using a technique in which a portion of the original information is lost) is acceptable for some forms of data (e.g., digital images) in some applications, but for most IT applications, *lossless* compression (i.e., compression using a technique that preserves the entire content of the original data, and from which the original data can be reconstructed exactly) is required.

computer security

CONTEXT [Security]

Measures and controls that ensure confidentiality, integrity, and availability of information system assets including hardware, software, firmware, and information being processed, stored, and communicated.

concatenation

CONTEXT [Network] [Storage System]

A logical joining of two series of data. Usually represented by the symbol "|". In data communications, two or more data are often concatenated to provide a unique name or reference (e.g., S_ID | X_ID). Volume managers concatenate disk address spaces to present a single larger address space.

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concurrency

The property of overlapping in time. Usually refers to the execution of I/O operations or I/O requests.

concurrent

concurrent copy

CONTEXT [Storage System]

A hybrid point in time copy mechanism for which each copy is initially a changed block copy (i.e., shares unmodified storage with its source), but over time becomes a split mirror copy (i.e., does not share any storage with its source) without changing the point in time at which the copy logically occurred, independent of whether and where modifications to the source or the copy subsequently occur. A concurrent copy occupies at least the amount of storage required to hold changed blocks and grows to occupy as much storage as the copy source.

concurrent operations

Operations that overlap in time. The concept of concurrent I/O operations is central to the use of independent access arrays in throughput-intensive applications.

conditioning

The processing of a signal for the purpose of making it conform more closely to an ideal. Power conditioning is used to minimize voltage and frequency variations in an external power. Signal conditioning is used to reduce noise in logic or data signals.

confidentiality

CONTEXT [Security]

Encryption (in a security context).

configuration

CONTEXT [Storage System]

1. The process of installing or removing hardware or software components required for a system or subsystem to function.

2. Assignment of the operating parameters of a system, subsystem or device. Disk array configuration, for example, includes designating the array's member disks or extents, as well as parameters such as stripe depth, RAID model, cache allowance, etc.

3. The collection of a system's hardware and software components and operating parameters. *cf.* array configuration, physical configuration.

connection

CONTEXT [iSCSI]

A communication path between the initiator and target using a TCP/IP connection. One or more connections make up a session. Connections carry control messages, SCSI commands, parameters, and data within iSCSI PDUs.

Connection Identifier

CONTEXT [iSCSI]

Each connection within a session has an identifier that is unique within the session. The initiator generates the ID and sends it to the target when logging in and out.

connection initiator

CONTEXT [Fibre Channel]

An N_Port which initiates a Class 1 connection with a destination N_Port through a connect-request and receives a valid response from the destination N_Port to establish the connection.

connection recipient

CONTEXT [Fibre Channel]

An N_Port which receives a Class 1 connect-request from a connection initiator and accepts the connection request by transmitting a valid response.

connectionless buffer

CONTEXT [Fibre Channel]

A receive buffer used in a connectionless service and capable of receiving connectionless frames.

connectionless frame

CONTEXT [Fibre Channel]

A frame used in a connectionless service (i.e., Class 1 frames with SOF(C1)., Class 2, and Class 3 frames referred to individually or collectively)

connectionless integrity service

CONTEXT [Security]

A security service that provides data integrity service for an individual IP datagram by detecting modification of the datagram without regard to the ordering of the datagram in a stream of datagrams.

connectionless service

CONTEXT [Fibre Channel]

Communication between two N_Ports or NL_Ports without a dedicated connection.

consistency group

CONTEXT [Storage System]

A collection of replication sets grouped together to ensure write order consistency across all the replication sets' primary volumes. An operation on a consistency group, such as changing replication from asynchronous to synchronous, applies to all the replication sets within the consistency group, and consequently their volumes.

console

1. A device for graphical or textual visual output from a computer system
2. In systems, network and device management, an application that provides graphical and textual feedback regarding operation and status, and that may accept operator commands and input influencing operation and status. Sometimes called enterprise management console.

consolidation

CONTEXT [Storage System]

The process of accumulating the data for a number of sequential write requests in a cache, and performing a smaller number of larger write requests to achieve more efficient device utilization.

Continuous Data Protection (CDP)

A class of mechanisms that continuously capture or track data modifications enabling recovery to previous points in time. Abbreviated CDP.

Continuous Data Protection - CDP

CONTEXT [Data Recovery]

A data protection service that captures changes to data to a separate storage location. There are multiple methods for capturing the continuous changes involving different technologies that serve different needs. CDP-based solutions can provide fine granularities of restorable objects ranging from crash-consistent images to logical objects such as files, mail boxes, messages, etc.

continuously increasing relative offset

CONTEXT [Fibre Channel]

A transmission control algorithm in which the frames containing the subblocks that comprise a block of information are transmitted strictly in the order of the subblocks. Continuously increasing relative offset simplifies reassembly and detection of lost frames relative to random relative offset.

control software

CONTEXT [Storage System]

A body of software that provides common control and management for one or more disk arrays or tape arrays. Control software presents the arrays of disks or tapes it controls to its operating environment as one or more virtual disks or tapes. Control software may execute in a disk controller or intelligent host bus adapter, or in a host computer. When it executes in a disk controller or adapter, control software is often referred to as firmware.

controller

CONTEXT [Storage System] [Management]

1. The control logic in a disk or tape that performs command decoding and execution, host data transfer, serialization and deserialization of data, error detection and correction, and overall management of device operations

2. The control logic in a storage subsystem that performs command transformation and routing, aggregation (RAID, mirroring, striping, or other), high-level error recovery, and performance optimization for multiple storage devices

3. A subclass of CIM_LogicalDevice. A CIM_Controller represents a device having a single protocol stack whose primary purpose is to communicate with, control, and reset connected devices. There are many subclasses of CIM_Controller, addressing SCSI, PCI, USB, serial, parallel, and video controllers.

controller based array

controller based disk array

CONTEXT [Storage System]

A disk array whose control software executes in a disk subsystem controller. The member disks of a controller-based array are necessarily part of the same disk subsystem that includes the controller. *cf.* host based array.

controller cache

CONTEXT [Storage System]

A cache that resides within a controller and whose primary purpose is to improve disk or array I/O performance. *cf.* cache, disk cache, host cache

copy on write

CONTEXT [Storage System, Backup]

A technique for maintaining a point in time copy of a collection of data by copying only data which is modified after the instant of replicate initiation. The original source data is used to satisfy read requests for both the source data itself and for the unmodified portion of the point in time copy. *cf.* pointer remapping.

copyback

CONTEXT [Storage System]

The replacement of a properly functioning array member by another disk, including copying of the member's contents to the replacing disk. Copyback, which is most often used to create or restore a particular physical configuration for an array (e.g., a particular arrangement of array members on device I/O buses), is accomplished without reduction of the array.

7/7/2008

Core N_Port_Name

CONTEXT [Fibre Channel]

A set of entities with the same Core Switch_Name that may host multiple Virtual Switches. A Core Switch may be a set of ports in a physical chassis, or in multiple physical chassis.

Core Switch

CONTEXT [Fibre Channel]

An N_Port_Name associated with the Physical N_Port of a VFT Tagging N_Port, and not with any other FC_Port within the scope of its Name_Identifier format.

Core Switch_Name

CONTEXT [Fibre Channel]

In a Virtual Fabric capable Switch, the Switch_Name identifying the Core Switch.

count-key-data

CONTEXT [Storage Device]

A disk data organization model in which the disk is assumed to consist of a fixed number of tracks, each having a maximum data capacity. Multiple records of varying length may be written on each track of a count-key-data disk, and the usable capacity of each track depends on the number of records written to it. Count-key-data (CKD) architecture derives its name from the record format, which consists of a field containing the number of bytes of data and a record address, an optional key field by which particular records can be easily recognized, and the data itself. Count-key-data is the storage architecture used by IBM Corporation's System 390 series of mainframe computer systems. *cf.* fixed block architecture

countermeasure

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CONTEXT [Security]

Any action, device, procedure, technique, or other measure that reduces the vulnerability of or threat to a system.

covert channel

CONTEXT [Security]

An unintended and/or unauthorized communications path that can be used to transfer information in a manner that violates a security policy.

COW

Acronym for copy on write.

credit

CONTEXT [Fibre Channel]

The number of receive buffers allocated to a transmitting N_Port, NL_Port, or F_Port. The credit is the maximum number of outstanding frames that can be transmitted by that N_Port, NL_Port, or F_Port without causing a buffer overrun condition at the receiver.

CRC

Acronym for cyclic redundancy check.

CRL

CONTEXT [Security]

Acronym for Certificate Revocation List.

CRU

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Acronym for Customer Replaceable Unit.

cryptanalysis

CONTEXT [Security]

A set of operations performed in converting encrypted information to plain text without initial knowledge of the algorithm and/or key employed in the encryption.

cryptography

CONTEXT [Security]

The principles, means and methods for rendering information unintelligible, and for restoring encrypted information to intelligible form.

CSMA/CD

Acronym for Carrier Sense Multiple Access with Collision Detection.

cumulative incremental backup

CONTEXT [Data Recovery]

A backup in which all data objects modified since the last full backup are copied. To restore data when cumulative incremental backups are in use, only the latest full backup and the latest cumulative incremental backup are required. *cf.* differential incremental backup, full backup

current running disparity

CONTEXT [Fibre Channel]

The running disparity present at a transmitter when the encoding of a valid data byte or special code is initiated, or at a receiver when the decoding of a transmission character is initiated.

customer replaceable unit

A unit, or component of a system that is designed to be replaced by "customers;" i.e., individuals who may not be trained as computer system service personnel. *cf.* field replaceable unit

cut through (switching)

CONTEXT [Fibre Channel]

A switching technique that allows a routing decision to be made and acted upon as soon as the destination address of a frame is received.

cyclic redundancy check

A scheme for checking the correctness of data that has been transmitted or stored and retrieved. Abbreviated CRC. A CRC consists of a fixed number of bits computed as a function of the data to be protected, and appended to the data. When the data is read or received, the function is recomputed, and the result is compared to that appended to the data. Cyclic redundancy checks differ from error correcting codes in that they can detect a wide range of errors, but are not capable of correcting them. *cf.* error correcting code

cylinder-head-sector addressing

CONTEXT [Storage Device]

A form of addressing data stored on a disk in which the cylinder, head/platter combination, and relative sector number on a track are specified.Abbreviated C-H-S addressing. *cf.* block addressing